

Bibliometrics and Citation Analysis

**From the *Science Citation Index*
to Cybermetrics**

Nicola De Bellis



The Scarecrow Press, Inc.
Lanham, Maryland • Toronto • Plymouth, UK
2009

Contents

Preface	vii
Bibliographic Notice	ix
Introduction	xi
1 Biblio/Sciento/Infor-metrics: Terminological Issues and Early Historical Developments	1
2 The Empirical Foundations of Bibliometrics: The <i>Science Citation Index</i>	23
3 The Philosophical Foundations of Bibliometrics: Bernal, Merton, Price, Garfield, and Small	49
4 The Mathematical Foundations of Bibliometrics	75
5 Maps and Paradigms: Bibliographic Citations at the Service of the History and Sociology of Science	141
6 Impact Factor and the Evaluation of Scientists: Bibliographic Citations at the Service of Science Policy and Management	181
7 On the Shoulders of Dwarfs: Citation as Rhetorical Device and the Criticisms to the Normative Model	243
8 Measuring Scientific Communication in the Twentieth Century: From Bibliometrics to Cybermetrics	285

Conclusions	335
Selected Bibliography	339
Index	395
About the Author	417